

Appl. No. 09/715,308
Amdt. Dated January 26, 2003
Reply to Office Action of November 26, 2003

Listing of Claims:

Claim 1 (Previously presented): A method for entering data into an aircraft flight management system having a computer means, the computer means communicating with a monitor, at least one data source and a text entry means, the method comprising the steps of:

- a. entering at least one alphanumeric character corresponding to a first text identifier into the text entry device and displaying the text entered on a flight plan entry field on the display;
- b. comparing the entered character to data stored in each data source and identifying and automatically completing on the monitor display a likely text identifier that is geographically closest to the aircraft's flight plan; and
- c. repeating steps a and b until a desired first text identifier is displayed in the flight plan entry field.

Claim 2 (Previously presented): The method of claim 1 further comprising the steps of accepting the text identifier by the text entry means if acceptable to an operator of the aircraft and allowing the computer means to modify the aircraft's flight plan corresponding to the accepted text identifier.

Appl. No. 09/715,308
Amdt. Dated January 26, 2003
Reply to Office Action of November 26, 2003

Claim 3 (Previously presented): The method of claim 2 further comprising the steps of:

d. entering at least one alphanumeric character corresponding to additional text identifiers into the text entry device and displaying the text entered on a flight plan entry field on the display,

e. comparing the entered character to data stored in each data source and identifying and automatically completing on the monitor display a likely text identifier that is geographically closest to the aircraft's flight plan, and

f. repeating steps d and e until a desired additional text identifier is displayed in the flight plan entry field.

Claim 4 (Original): The method of claim 3 wherein at least one data source contains avionics data.

Claim 5 (Original): The method of claim 4 wherein at least one data source contains navigational data.

Claim 6 (Original): The method of Claim 5 wherein the computer means is a microprocessor.

Claim 7 (Previously Presented): The method of claim 6 wherein each text identifier is selected from the group consisting of airway data, waypoint data and aircraft procedure data.

Claims 8 - 11 (canceled)

Claim 12 (Previously presented): The method of claim 30 wherein at least one data source contains avionics data.

Claim 13 (Previously presented): The method of claim 12 wherein at least one data source contains navigational data.

Appl. No. 09/715,308
Amdt. Dated January 26, 2003
Reply to Office Action of November 26, 2003

Claim 14 (Previously presented): The method of claim 13 wherein the computer is a microprocessor.

Claim 15 (Previously Presented): The method of claim 14 wherein each text identifier is selected from the group consisting of airway data, waypoint data and aircraft procedure data.

Claim 16 (Previously presented): A system for entering and editing data in an aircraft flight plan, the system comprising an aircraft avionics flight management system having a computer the computer communicating with a monitor, at least one data source and a text entry means, the text entry means configured to accept at least one alphanumeric character corresponding to a first text identifier, the monitor configured to display the text entered on a flight plan entry field on the display and the computer configured to compare the entered character to data stored in each data source and identifying and completing on the monitor display a likely text identifier that is geographically closest to the aircraft's flight plan.

Claim 17 (canceled)

Claim 18 (Previously presented): The system of claim 16 wherein the text entry means is configured to accept at least one entered alphanumeric text character corresponding to additional text identifiers, the monitor is configured to display the text entered on a flight plan entry field on the display and the computer is configured to compare the entered character to data stored in each data source, identify and complete on the display additional likely text identifiers that are geographically closest to the aircraft's flight plan and modify the aircraft's flight plan corresponding to the text identifier if acceptable an operator of the aircraft.

Claim 19 (canceled)

Claim 20 (original): A process for presenting acceptable options to an aircraft operator for selectable alternative runway and approach paths, the aircraft having an aircraft avionics flight management system (FMS) having a computer means, the computer means communicating with a monitor, at least one data source and a text entry means, the process comprising the steps of:

Appl. No. 09/715,308
Amdt. Dated January 26, 2003
Reply to Office Action of November 26, 2003

- a. notifying the computer means by the text entry means to allow the computer means to obtain a runway list from the data source for all runways associated with a destination airport programmed within the FMS;
- b. removing active runway information from the runway list and sorting all remaining runways by proximity to the active runway heading;
- c. allowing the computer means to select the most likely runway corresponding to the aircraft's new approach and arrival route and displaying;
- d. determining whether additional runways exist in the runway list;
- e. if no additional runways exist in the runway list, displaying the runway list to an output device;
- f. if additional runways exist in the runway list, allowing the computer means to generate an approved approach list from the data source;
- g. removing, by the computer means, the active approach information from the approach list;
- h. prioritizing all remaining runways by the type of approach available for the selected runway and allowing the computer means to store an approach list; and
- i. repeating steps e-h.

Claim 21 (Original): The process of claim 20 wherein the output device is a monitor.

Claim 22 (Original): The process of claim 20 wherein the data source includes navigation and avionics information.

Claim 23 (Original): The process of claim 22 wherein the step of prioritizing all remaining runways by the type of approach further includes the step of prioritizing all remaining runways by precisional information.

Claim 24 (Original): The process of claim 23 wherein precisional information is selected from the group consisting of instrument landing system, microwave landing system, satellite landing system, localizer-type directional aid with Glideslope and localizer backcourse with Glideslope information.

Appl. No. 09/715,308
Amdt. Dated January 26, 2003
Reply to Office Action of November 26, 2003

Claim 25 (Original): The process of claim 23 wherein the step of prioritizing all remaining runways by the type of approach further includes the step of prioritizing all remaining runways by non-precisional information.

Claim 26 (Original): The process of claim 25 wherein non-precisional information is selected from the group of localizer, localizer backcourse, global positioning system, very high frequency omni-directional range, area navigation, non-directional beacon, simplified directional facility and long range navigation information.

Claim 27 (Original): The process of claim 26 further including the steps of:

- a. notifying the computer means by the text entry means to determine all legs associated with a new alternate approach associated with a new runway and further having a new intercept point along the new alternate approach;
- b. if the intercept point is within the new runway's final approach, allowing the computer means to control an output device to display an error message;
- c. if the intercept point is not within the new runway's final approach fix, allowing the computer means to control the monitor to display an error message;
- d. if the intercept point is located within the new runway's final approach fix, allowing the computer means to obtain a new leg corresponding to the new alternate approach and to delete waypoints along the leg which the aircraft has passed;
- e. allowing the computer means to calculate a proposed turn direction and intercept angle for the aircraft to achieve the new intercept point in the new alternate approach and controlling the monitor to display the new alternate approach;
- f. repeating steps a-e until the operator accepts or cancels the new alternate approach;
- g. if the operator accepts the new alternate approach, allowing the computer means to replace the active flight plan with the new alternate approach in the FMS and executing the new alternate approach.

Claim 28 (Original): A process for presenting at least one new alternate approach pattern to a new runway to an aircraft operator for selection, the aircraft having an aircraft avionics flight management system (FMS) having a computer means, the computer means communicating

Appl. No. 09/715,308
Amdt. Dated January 26, 2003
Reply to Office Action of November 26, 2003

with a monitor, at least one data source and a text entry means, the process comprising the steps of:

- a. notifying the computer means by the text entry means to determine all legs associated with the new alternate approach and a new intercept point along the new alternate approach;
- b. if the intercept point is within the new runway's final approach, allowing the computer means to control an output device to display an error message;
- c. if the intercept point is not within the new runway's final approach fix, allowing the computer means to control the monitor to display an error message;
- d. if the intercept point is located within the new runway's final approach fix, allowing the computer means to obtain a new leg corresponding to the new alternate approach and to delete waypoints along the leg which the aircraft has passed;
- e. allowing the computer means to calculate a proposed turn direct and intercept angle for the aircraft to achieve the new intercept point in the new alternate approach and controlling the monitor to display the new alternate approach;
- f. repeating steps a-e until the operator accepts or cancels the new alternate approach;
- g. if the operator accepts the new alternate approach, allowing the computer means to replace the active flight plan with the new alternate approach in the FMS and executing the new alternate approach.

Claim 29 (Original): The process of claim 28 wherein the step of determining all legs associated with the new alternative approach and a new intercept point along the new alternate approach is based on aircraft position and aircraft distance to the new runway coordinates.

Claim 30 (Previously Presented): A method for entering data into an aircraft flight management system having a computer, the computer communicating with a monitor, at least one data source and a text entry means, the method comprising the steps of:

- a. entering at least one alphanumeric character corresponding to a first text identifier into the text entry device and displaying the text entered on a flight plan entry field on the display;

Appl. No. 09/715,308
Amdt. Dated January 26, 2003
Reply to Office Action of November 26, 2003

- b. comparing the entered character to data stored in each data source and identifying and automatically completing on the monitor display a likely text identifier that is geographically closest to the aircraft's flight plan; and
- c. repeating steps a and b until a desired first text identifier is displayed in the flight plan entry field,
- d. accepting the text identifier by the text entry means if acceptable to an operator of the aircraft and allowing the computer to modify the aircraft's flight plan corresponding to the accepted text identifier,
- e. entering at least one alphanumeric character corresponding to additional text identifiers into the text entry device and displaying the text entered on a flight plan entry field on the display,
- f. comparing the entered character to data stored in each data source and identifying and automatically completing on the monitor display a likely text identifier that is geographically closest to the aircraft's flight plan,
- g. repeating steps e and f until a desired additional text identifier is displayed in the flight plan entry field,
- h. notifying the computer by the text entry means to allow the computer to obtain a runway list from the data source for all runways associated with a destination airport; and
- i. removing active runway information from the runway list and sorting and listing all remaining runways by proximity to the active runway heading.

Claim 31 (canceled)

32. (Previously Presented): The method of claim 30 further comprising the steps of:

- j. allowing the computer to select the most likely runway corresponding to the aircraft's new approach and arrival route;
- k. determining whether additional runways exist in the runway list;
- l. if no additional runways exist in the runway list, displaying the runway list to an output device;
- m. if additional runways exist in the runway list, allowing the computer to generate an approved approach list from the data source;
- n. removing, by the computer, the active approach information from the approach list;

Appl. No. 09/715,308
Amdt. Dated January 26, 2003
Reply to Office Action of November 26, 2003

o. prioritizing all remaining runways by the type of approach available for the selected runway and allowing the computer to store an approach list.

Claim 33 (Previously Presented): A method for entering data into an aircraft flight management system having a computer, the computer communicating with a monitor, at least one data source and a text entry means, the method comprising the steps of:

- a. entering at least one alphanumeric character corresponding to a first text identifier into the text entry device and displaying the text entered on a flight plan entry field on the display;
- b. comparing the entered character to data stored in each data source and identifying a likely text identifier that is geographically closest to the aircraft's flight plan; and
- c. accepting the text identifier by the text entry means if acceptable to an operator of the aircraft and allowing the computer to modify the aircraft's flight plan corresponding to the accepted text identifier,
- d. notifying the computer by the text entry means to allow the computer to obtain a runway list from the data source for all runways associated with a destination airport; and
- e. removing active runway information from the runway list and sorting and listing all remaining runways by proximity to the active runway heading.